

Technical Documentation Wind Turbine Generator Systems 5.X-158 - 60Hz



Technical Description and Data Weights and Dimensions

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1 Introduction

This document provides the estimated weights and dimensions of the 5.X-158 rotor wind turbine generator system. The weights and dimensions herein do not include the weights and dimensions of the shipping frames/fixtures. Actual weights may vary depending on final configuration. All weights must be verified prior to installation and transportation.

2 Tower Sections – Weights and Dimensions (Upper Specification Limits)

The following table gives the weights and dimensions of the tower sections for the 107.4 m tower and 125.4 m tower

Section	Weight [MT]	Length [m]	Diameter [mm]	
Name	shell + internals	L [m]	Dtop	Dbottom
Top	46.3	29.7	3684	4300
Mid A	48.9	25.2	4300	4300
Mid B	51.5	19.9	4300	4300
Mid C	63.3	18.2	4300	4300
Door	64.7	11.8	4300	4556

Table 1: Weights and dimensions of tower (107.4 m)

Section	Weight [MT]	Length [m]	Diameter [mm]	
Name	shell + internals	L [m]	Dtop	Dbottom
Top	44.4	28.1	3684	4300
Mid A	48.5	25.2	4300	4300
Mid B	59.9	23.8	4300	4300
Mid C	66.3	19.9	4300	4300
Mid D	66.0	14.8	4300	4300
Door	61.2	9.8	4300	4300
TBR	15.8	1.2	4300	4804

Table 2: Weights and dimensions of tower (125.4 m)

3 Hub Assembly

This section gives the maximum weights and dimensions of the hub assembly

Part	Weight [MT]	Length [m]	Width [m]	Height [m]
Hub	47.4	4.0	4.5	3.9

Table 3: Weights and dimensions of hub assembly

4 Blades

This section gives the maximum weight of a single blade including the bolts. The length dimension is for the blade only.

Part	Weight [MT]	Length [m]	Blade root outer diameter[mm]	Max cord	Cord at 0.9 x rotor diameter
Blade LM77.4 P	20.0	77.4	3200	4	1.3

Table 4: Weights and dimensions of single blade

5 Machine head

This section gives the weight and dimensions of Machine head

Part	Weight [MT]	Length [m]	Width [m]	Height [m]
MH front ¹ (incl. Generator)	75.4	12.2	5.5	4.9
MH rear (incl. transformer)	16.4	2.1	3.9	3.3
Drive train (incl. gearbox)	72.7	7.4	3.3	3.2
Generator	12.8	3.4	1.6	2.0
Transformer	14.0	3.3	1.4	2.5
Gearbox ²	39.9	4.0	3.3	2.9

Table 5: Weights and dimensions of the Machine head

¹Modification apply for transport purposes

² Gearbox mass is without oil